Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

Custom Rpt (Litter-Based) -- 0-300, 150-300

NTP Study Number: C20614

Lock Date: 01/10/2012

Cage Range: ALL

Date Range: ALL

Reasons For Removal: 25021 TSAC 25020 NATD 25019 MSAC

25016 Aborted

Removal Date Range: ALL

Treatment Groups: Include 004 0/300 ppm Include 006 150/300 ppm

Study Gender: Both

TDMSE Version: 2.5.0.0_sfh

PWG Approval Date: 07/25/2018

Test Type: CHRONIC Route: DOSED FEED

Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid **CAS Number:** 335-67-1 Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

SUMMARY OF STATISTICALLY SIGNIFICANT (P<=.05) RESULTS IN THE ANALYSIS OF PERFLUOROOCTANOIC ACID

FEMALE RATS

Organ

Eye: Retina Heart

Kidney: Papilla, Urothelium

Liver

Liver: Hepatocyte

Lung Ovary

Morphology

Degeneration Cardiomyopathy Hyperplasia Eosinophilic Focus Cytoplasmic Alteration Inflammation Chronic

Atrophy

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

DOSE	0/300 ppm	150/300 ppm
Adrenal Cortex		
Degeneration Cystic		
LESION RATES		
OVERALL (a)	8/50 (16%)	11/50 (22%)
LITTERS (b)	7/29 (24%)	10/29 (34%)
POLY-3 RATE (c)	8/42.42	11/42.40
POLY-3 PERCENT (g)	18.9%	26%
TERMINAL (d)	6/28 (21%)	8/32 (25%)
FIRST INCIDENCE	643	564
STATISTICAL TESTS		
POLY 3		P=0.300
POLY 1.5		P=0.293
POLY 6		P=0.325
RAO-SCOTT		P=0.304
LITTER C-A/FISHERS		P=0.282

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Adrenal Cortex Hypertrophy				
LESION RATES				
OVERALL (a)	2/50 (4%)	5/50 (10%)		
LITTERS (b)	2/29 (7%)	5/29 (17%)		
POLY-3 RATE (c)	2/41.88	5/41.46		
POLY-3 PERCENT (g)	4.8%	12.1%		
TERMINAL (d)	2/28 (7%)	4/32 (13%)		
FIRST INCIDENCE	744 (T)	739		
STATISTICAL TESTS				
POLY 3		P=0.211		
POLY 1.5		P=0.209		
POLY 6		P=0.221		
RAO-SCOTT		P=0.209		
LITTER C-A/FISHERS		P=0.211		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Adrenal Cortex: Zona Fasci Hyperplasia	culata		
LESION RATES			
OVERALL (a)	0/50 (0%)	2/50 (4%)	
LITTERS (b)	0/29 (0%)	2/29 (7%)	
POLY-3 RATE (c)	0/41.88	2/41.73	
POLY-3 PERCENT (g)	0%	4.8%	
TERMINAL (d)	0/28 (0%)	0/32 (0%)	
FIRST INCIDENCE		695	
STATISTICAL TESTS			
POLY 3		P=0.236	
POLY 1.5		P=0.234	
POLY 6		P=0.243	
RAO-SCOTT		P=0.325	
LITTER C-A/FISHERS		P=0.246	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

DOSE	0/300 ppm	150/300 ppm
Adrenal Medulla		
Hyperplasia		
LESION RATES		
OVERALL (a)	14/50 (28%)	8/50 (16%)
LITTERS (b)	12/29 (41%)	8/29 (28%)
POLY-3 RATE (c)	14/42.56	8/42.33
POLY-3 PERCENT (g)	32.9%	18.9%
TERMINAL (d)	11/28 (39%)	6/32 (19%)
FIRST INCIDENCE	643	368
STATISTICAL TESTS		
POLY 3		P=0.108N
POLY 1.5		P=0.113N
POLY 6		P=0.095N
RAO-SCOTT		P=0.122N
LITTER C-A/FISHERS		P=0.204N

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Blood Vessel Inflammation			
LESION RATES			
OVERALL (a)	1/50 (2%)	2/50 (4%)	
LITTERS (b)	1/29 (3%)	2/29 (7%)	
POLY-3 RATE (c)	1/41.90	2/41.44	
POLY-3 PERCENT (g)	2.4%	4.8%	
TERMINAL (d)	0/28 (0%)	2/32 (6%)	
FIRST INCIDENCE	739	744 (T)	
STATISTICAL TESTS			
POLY 3		P=0.496	
POLY 1.5		P=0.494	
POLY 6		P=0.506	
RAO-SCOTT		P=0.491	
LITTER C-A/FISHERS		P=0.500	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid **CAS Number:** 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Blood Vessel: Aorta Mineral			
LESION RATES			
OVERALL (a)	1/50 (2%)	2/50 (4%)	
LITTERS (b)	1/29 (3%)	2/29 (7%)	
POLY-3 RATE (c)	1/42.09	2/41.44	
POLY-3 PERCENT (g)	2.4%	4.8%	
TERMINAL (d)	0/28 (0%)	2/32 (6%)	
FIRST INCIDENCE	687	744 (T)	
STATISTICAL TESTS			
POLY 3		P=0.495	
POLY 1.5		P=0.493	
POLY 6		P=0.502	
RAO-SCOTT		P=0.488	
LITTER C-A/FISHERS		P=0.500	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Bone Marrow Hyperplasia				
LESION RATES				
OVERALL (a)	20/50 (40%)	22/50 (44%)		
LITTERS (b)	18/29 (62%)	18/29 (62%)		
POLY-3 RATE (c)	20/47.35	22/47.63		
POLY-3 PERCENT (g)	42.2%	46.2%		
TERMINAL (d)	7/28 (25%)	9/32 (28%)		
FIRST INCIDENCE	250	322		
STATISTICAL TESTS				
POLY 3		P=0.428		
POLY 1.5		P=0.411		
POLY 6		P=0.467		
RAO-SCOTT		P=0.428		
LITTER C-A/FISHERS		P=0.606		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

-		
DOSE	0/300 ppm	150/300 ppm
Eye: Retina Degeneration		
LESION RATES		
OVERALL (a)	5/50 (10%)	0/50 (0%)
LITTERS (b)	4/29 (14%)	0/29 (0%)
POLY-3 RATE (c)	5/42.08	0/41.44
POLY-3 PERCENT (g)	11.9%	0%
TERMINAL (d)	3/28 (11%)	0/32 (0%)
FIRST INCIDENCE	695	
STATISTICAL TESTS		
POLY 3		P=0.031N*
POLY 1.5		P=0.032N*
POLY 6		P=0.029N*
RAO-SCOTT		P=0.120N
LITTER C-A/FISHERS		P=0.056N

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Fei	emales	
DOSE	0/300 ppm	150/300 ppm		
Heart Cardiomyopathy				
LESION RATES				
OVERALL (a)	5/50 (10%)	13/50 (26%)		
LITTERS (b)	4/29 (14%)	11/29 (38%)		
POLY-3 RATE (c)	5/42.76	13/44.45		
POLY-3 PERCENT (g)	11.7%	29.3%		
TERMINAL (d)	2/28 (7%)	8/32 (25%)		
FIRST INCIDENCE	638	295		
STATISTICAL TESTS				
POLY 3		P=0.037*		
POLY 1.5		P=0.034*		
POLY 6		P=0.042*		
RAO-SCOTT		P=0.056		
LITTER C-A/FISHERS		P=0.035*		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

DOSE	0/300 ppm	150/300 ppm
Intestine Large, Colon		
Parasite Metazoan		
LESION RATES		
OVERALL (a)	7/49 (14%)	8/50 (16%)
LITTERS (b)	7/29 (24%)	7/29 (24%)
POLY-3 RATE (c)	7/42.10	8/41.45
POLY-3 PERCENT (g)	16.6%	19.3%
TERMINAL (d)	3/27 (11%)	7/32 (22%)
FIRST INCIDENCE	470	742
STATISTICAL TESTS		
POLY 3		P=0.487
POLY 1.5		P=0.491
POLY 6		P=0.498
RAO-SCOTT		P=0.480
LITTER C-A/FISHERS		P=0.620

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
	••		
Kidney			
Calculus Micro Observation	n Only		
LESION RATES			
OVERALL (a)	14/50 (28%)	12/50 (24%)	
LITTERS (b)	12/29 (41%)	12/29 (41%)	
POLY-3 RATE (c)	14/42.44	12/42.40	
POLY-3 PERCENT (g)	33%	28.3%	
TERMINAL (d)	10/28 (36%)	8/32 (25%)	
FIRST INCIDENCE	676	634	
STATISTICAL TESTS			
POLY 3		P=0.408N	
POLY 1.5		P=0.422N	
POLY 6		P=0.368N	
RAO-SCOTT		P=0.405N	
LITTER C-A/FISHERS		P=0.605	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Kidney Infarct				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)		
LITTERS (b)	2/29 (7%)	0/29 (0%)		
POLY-3 RATE (c)	2/42.62	0/41.44		
POLY-3 PERCENT (g)	4.7%	0%		
TERMINAL (d)	0/28 (0%)	0/32 (0%)		
FIRST INCIDENCE	574			
STATISTICAL TESTS				
POLY 3		P=0.243N		
POLY 1.5		P=0.243N		
POLY 6		P=0.240N		
RAO-SCOTT		P=0.331N		
LITTER C-A/FISHERS		P=0.246N		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Kidney				
Nephropathy Chronic Progr	ressive			
LESION RATES				
OVERALL (a)	38/50 (76%)	35/50 (70%)		
LITTERS (b)	25/29 (86%)	25/29 (86%)		
POLY-3 RATE (c)	38/46.11	35/45.50		
POLY-3 PERCENT (g)	82.4%	76.9%		
TERMINAL (d)	25/28 (89%)	26/32 (81%)		
FIRST INCIDENCE	470	295		
STATISTICAL TESTS				
POLY 3		P=0.339N		
POLY 1.5		P=0.345N		
POLY 6		P=0.298N		
RAO-SCOTT		P=0.346N		
LITTER C-A/FISHERS		P=0.647		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Kidney: Cortex Cyst				
LESION RATES				
OVERALL (a)	2/50 (4%)	2/50 (4%)		
LITTERS (b)	2/29 (7%)	2/29 (7%)		
POLY-3 RATE (c)	2/42.42	2/41.44		
POLY-3 PERCENT (g)	4.7%	4.8%		
TERMINAL (d)	1/28 (4%)	2/32 (6%)		
FIRST INCIDENCE	574	744 (T)		
STATISTICAL TESTS				
POLY 3		P=0.686		
POLY 1.5		P=0.685		
POLY 6		P=0.693		
RAO-SCOTT		P=0.660		
LITTER C-A/FISHERS		P=0.694		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

DOSE	0/300 ppm	150/300 ppm
Kidney: Papilla, Urothelium		
Hyperplasia		
LESION RATES		
OVERALL (a)	21/50 (42%)	8/50 (16%)
LITTERS (b)	20/29 (69%)	7/29 (24%)
POLY-3 RATE (c)	21/45.61	8/41.81
POLY-3 PERCENT (g)	46.1%	19.1%
TERMINAL (d)	9/28 (32%)	7/32 (22%)
FIRST INCIDENCE	470	638
STATISTICAL TESTS		
POLY 3		P=0.006N**
POLY 1.5		P=0.005N**
POLY 6		P=0.007N**
RAO-SCOTT		P=0.007N**
LITTER C-A/FISHERS		P<0.001N**

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females
DOSE	0/300 ppm	150/300 ppm	
Kidney: Renal Tubule Mineral			
LESION RATES			
OVERALL (a)	6/50 (12%)	8/50 (16%)	
LITTERS (b)	5/29 (17%)	8/29 (28%)	
POLY-3 RATE (c)	6/42.42	8/43.40	
POLY-3 PERCENT (g)	14.1%	18.4%	
TERMINAL (d)	3/28 (11%)	5/32 (16%)	
FIRST INCIDENCE	659	295	
STATISTICAL TESTS			
POLY 3		P=0.403	
POLY 1.5		P=0.394	
POLY 6		P=0.422	
RAO-SCOTT		P=0.401	
LITTER C-A/FISHERS		P=0.265	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Liver Basophilic Focus			
LESION RATES			
OVERALL (a)	8/50 (16%)	12/50 (24%)	
LITTERS (b)	7/29 (24%)	10/29 (34%)	
POLY-3 RATE (c)	8/42.27	12/42.06	
POLY-3 PERCENT (g)	18.9%	28.5%	
TERMINAL (d)	6/28 (21%)	9/32 (28%)	
FIRST INCIDENCE	638	622	
STATISTICAL TESTS			
POLY 3		P=0.216	
POLY 1.5		P=0.212	
POLY 6		P=0.238	
RAO-SCOTT		P=0.230	
LITTER C-A/FISHERS		P=0.282	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Liver			
Clear Cell Focus			
LESION RATES			
OVERALL (a)	9/50 (18%)	8/50 (16%)	
LITTERS (b)	9/29 (31%)	7/29 (24%)	
POLY-3 RATE (c)	9/42.50	8/41.82	
POLY-3 PERCENT (g)	21.2%	19.1%	
TERMINAL (d)	7/28 (25%)	7/32 (22%)	
FIRST INCIDENCE	638	634	
STATISTICAL TESTS			
POLY 3		P=0.515N	
POLY 1.5		P=0.518N	
POLY 6		P=0.495N	
RAO-SCOTT		P=0.500N	
LITTER C-A/FISHERS		P=0.385N	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

Liver Eosinophilic Focus LESION RATES OVERALL (a) 1/50 (2%) 12/50 (24%) LITTERS (b) 1/29 (3%) 11/29 (38%) POLY-3 RATE (c) 1/42.25 12/41.54 POLY-3 PERCENT (g) 2.4% 28.9% TERMINAL (d) 0/28 (0%) 11/32 (34%) FIRST INCIDENCE 638 718 STATISTICAL TESTS POLY 3 P<0.001** POLY 1.5 P<0.001** POLY 6 P<0.001** P=0.005**			Females	
LESION RATES	DOSE	0/300 ppm	150/300 ppm	
LESION RATES				
DVERALL (a) 1/50 (2%) 12/50 (24%) LITTERS (b) 1/29 (3%) 11/29 (38%) POLY-3 RATE (c) 1/42.25 12/41.54 POLY-3 PERCENT (g) 2.4% 28.9% TERMINAL (d) 0/28 (0%) 11/32 (34%) FIRST INCIDENCE 638 718 STATISTICAL TESTS POLY 3 POLY 1.5 P<0.001** POLY 1.5 P<0.001** POLY 6 RAO-SCOTT P=0.005**	Liver Eosinophilic Focus			
LITTERS (b) 1/29 (3%) 11/29 (38%) POLY-3 RATE (c) 1/42.25 12/41.54 POLY-3 PERCENT (g) 2.4% 28.9% TERMINAL (d) 0/28 (0%) 11/32 (34%) FIRST INCIDENCE 638 718 STATISTICAL TESTS POLY 3 P<0.001** POLY 1.5 P<0.001** POLY 6 P<0.001** RAO-SCOTT P=0.005**	LESION RATES			
POLY-3 RATE (c) 1/42.25 12/41.54 POLY-3 PERCENT (g) 2.4% 28.9% TERMINAL (d) 0/28 (0%) 11/32 (34%) FIRST INCIDENCE 638 718 STATISTICAL TESTS POLY 3 P<0.001** POLY 1.5 P<0.001** POLY 6 P<0.001** RAO-SCOTT P=0.005**	OVERALL (a)	1/50 (2%)	12/50 (24%)	
POLY-3 PERCENT (g) 2.4% 28.9% TERMINAL (d) 0/28 (0%) 11/32 (34%) FIRST INCIDENCE 638 718 STATISTICAL TESTS POLY 3 P<0.001**	LITTERS (b)	1/29 (3%)	11/29 (38%)	
TERMINAL (d) 0/28 (0%) 11/32 (34%) FIRST INCIDENCE 638 718 STATISTICAL TESTS POLY 3 P<0.001**	POLY-3 RATE (c)	1/42.25	12/41.54	
### FIRST INCIDENCE 638 718 ### STATISTICAL TESTS ### POLY 3	POLY-3 PERCENT (g)	2.4%	28.9%	
STATISTICAL TESTS POLY 3 P<0.001** POLY 1.5 P<0.001** POLY 6 P<0.001** RAO-SCOTT P=0.005**	TERMINAL (d)	0/28 (0%)	11/32 (34%)	
POLY 3 P<0.001** POLY 1.5 P<0.001** POLY 6 P<0.001** RAO-SCOTT P=0.005**	FIRST INCIDENCE	638	718	
POLY 1.5 P<0.001** POLY 6 P<0.001** RAO-SCOTT P=0.005**	STATISTICAL TESTS			
POLY 6 P<0.001** RAO-SCOTT P=0.005**	POLY 3		P<0.001**	
RAO-SCOTT P=0.005**	POLY 1.5		P<0.001**	
	POLY 6		P<0.001**	
LITTER C-A/FISHERS P<0.001**	RAO-SCOTT		P=0.005**	
	LITTER C-A/FISHERS		P<0.001**	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Liver			
Extramedullary Hematopoie	esis		
LESION RATES			
OVERALL (a)	7/50 (14%)	10/50 (20%)	
LITTERS (b)	7/29 (24%)	8/29 (28%)	
POLY-3 RATE (c)	7/43.48	10/44.45	
POLY-3 PERCENT (g)	16.1%	22.5%	
TERMINAL (d)	4/28 (14%)	4/32 (13%)	
FIRST INCIDENCE	250	351	
STATISTICAL TESTS			
POLY 3		P=0.312	
POLY 1.5		P=0.296	
POLY 6		P=0.349	
RAO-SCOTT		P=0.337	
LITTER C-A/FISHERS		P=0.500	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females
DOSE	0/300 ppm	150/300 ppm
Liver Inflammation Focal		
LESION RATES		
OVERALL (a)	10/50 (20%)	6/50 (12%)
LITTERS (b)	9/29 (31%)	6/29 (21%)
POLY-3 RATE (c)	10/42.99	6/42.34
POLY-3 PERCENT (g)	23.3%	14.2%
TERMINAL (d)	8/28 (29%)	5/32 (16%)
FIRST INCIDENCE	470	349
STATISTICAL TESTS		
POLY 3		P=0.212N
POLY 1.5		P=0.215N
POLY 6		P=0.198N
RAO-SCOTT		P=0.223N
LITTER C-A/FISHERS		P=0.275N

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Liver Necrosis			
LESION RATES			
OVERALL (a)	1/50 (2%)	4/50 (8%)	
LITTERS (b)	1/29 (3%)	4/29 (14%)	
POLY-3 RATE (c)	1/42.60	4/43.82	
POLY-3 PERCENT (g)	2.4%	9.1%	
TERMINAL (d)	0/28 (0%)	1/32 (3%)	
FIRST INCIDENCE	484	322	
STATISTICAL TESTS			
POLY 3		P=0.187	
POLY 1.5		P=0.182	
POLY 6		P=0.197	
RAO-SCOTT		P=0.218	
LITTER C-A/FISHERS		P=0.176	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Liver Pigment			
LESION RATES			
OVERALL (a)	5/50 (10%)	10/50 (20%)	
LITTERS (b)	5/29 (17%)	9/29 (31%)	
POLY-3 RATE (c)	5/42.71	10/41.81	
POLY-3 PERCENT (g)	11.7%	23.9%	
TERMINAL (d)	1/28 (4%)	9/32 (28%)	
FIRST INCIDENCE	676	638	
STATISTICAL TESTS			
POLY 3		P=0.116	
POLY 1.5		P=0.118	
POLY 6		P=0.121	
RAO-SCOTT		P=0.136	
LITTER C-A/FISHERS		P=0.179	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Liver: Bile Duct Cyst				
LESION RATES				
OVERALL (a)	6/50 (12%)	5/50 (10%)		
LITTERS (b)	6/29 (21%)	5/29 (17%)		
POLY-3 RATE (c)	6/42.62	5/41.81		
POLY-3 PERCENT (g)	14.1%	12%		
TERMINAL (d)	5/28 (18%)	4/32 (13%)		
FIRST INCIDENCE	470	638		
STATISTICAL TESTS				
POLY 3		P=0.514N		
POLY 1.5		P=0.516N		
POLY 6		P=0.494N		
RAO-SCOTT		P=0.497N		
LITTER C-A/FISHERS		P=0.500N		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Liver: Bile Duct Hyperplasia			
LESION RATES			
OVERALL (a)	25/50 (50%)	27/50 (54%)	
LITTERS (b)	19/29 (66%)	18/29 (62%)	
POLY-3 RATE (c)	25/44.43	27/44.08	
POLY-3 PERCENT (g)	56.3%	61.3%	
TERMINAL (d)	17/28 (61%)	20/32 (63%)	
FIRST INCIDENCE	484	349	
STATISTICAL TESTS			
POLY 3		P=0.395	
POLY 1.5		P=0.389	
POLY 6		P=0.433	
RAO-SCOTT		P=0.407	
LITTER C-A/FISHERS		P=0.500N	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females
DOSE	0/300 ppm	150/300 ppm
Liver: Centrilobular Necrosis		
LESION RATES		
OVERALL (a)	4/50 (8%)	2/50 (4%)
LITTERS (b)	4/29 (14%)	2/29 (7%)
POLY-3 RATE (c)	4/43.38	2/41.57
POLY-3 PERCENT (g)	9.2%	4.8%
TERMINAL (d)	1/28 (4%)	0/32 (0%)
FIRST INCIDENCE	250	714
STATISTICAL TESTS		
POLY 3		P=0.357N
POLY 1.5		P=0.356N
POLY 6		P=0.348N
RAO-SCOTT		P=0.347N
LITTER C-A/FISHERS		P=0.335N

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Liver: Hepatocyte				
Cytoplasmic Alteration				
LESION RATES				
OVERALL (a)	9/50 (18%)	17/50 (34%)		
LITTERS (b)	9/29 (31%)	14/29 (48%)		
POLY-3 RATE (c)	9/44.55	17/43.53		
POLY-3 PERCENT (g)	20.2%	39.1%		
TERMINAL (d)	2/28 (7%)	12/32 (38%)		
FIRST INCIDENCE	250	322		
STATISTICAL TESTS				
POLY 3		P=0.041*		
POLY 1.5		P=0.043*		
POLY 6		P=0.043*		
RAO-SCOTT		P=0.051		
LITTER C-A/FISHERS		P=0.141		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Liver: Hepatocyte Hypertrophy			
LESION RATES			
OVERALL (a)	11/50 (22%)	16/50 (32%)	
LITTERS (b)	11/29 (38%)	15/29 (52%)	
POLY-3 RATE (c)	11/45.30	16/43.91	
POLY-3 PERCENT (g)	24.3%	36.4%	
TERMINAL (d)	3/28 (11%)	11/32 (34%)	
FIRST INCIDENCE	250	322	
STATISTICAL TESTS			
POLY 3		P=0.152	
POLY 1.5		P=0.156	
POLY 6		P=0.160	
RAO-SCOTT		P=0.148	
LITTER C-A/FISHERS		P=0.214	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Liver: Hepatocyte Increased mitoses				
LESION RATES				
OVERALL (a)	3/50 (6%)	5/50 (10%)		
LITTERS (b)	3/29 (10%)	5/29 (17%)		
POLY-3 RATE (c)	3/43.89	5/41.66		
POLY-3 PERCENT (g)	6.8%	12%		
TERMINAL (d)	0/28 (0%)	3/32 (9%)		
FIRST INCIDENCE	470	714		
STATISTICAL TESTS				
POLY 3		P=0.327		
POLY 1.5		P=0.333		
POLY 6		P=0.334		
RAO-SCOTT		P=0.323		
LITTER C-A/FISHERS		P=0.353		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
iver: Hepatocyte ingle Cell Death				
LESION RATES				
OVERALL (a)	4/50 (8%)	5/50 (10%)		
LITTERS (b)	4/29 (14%)	4/29 (14%)		
POLY-3 RATE (c)	4/44.07	5/42.42		
POLY-3 PERCENT (g)	9.1%	11.8%		
TERMINAL (d)	0/28 (0%)	3/32 (9%)		
FIRST INCIDENCE	470	368		
STATISTICAL TESTS				
POLY 3		P=0.476		
POLY 1.5		P=0.480		
POLY 6		P=0.482		
RAO-SCOTT		P=0.492		
LITTER C-A/FISHERS		P=0.647		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Fema	les	
DOSE	0/300 ppm	150/300 ppm		
Lung Inflammation Chronic				
LESION RATES				
OVERALL (a)	2/50 (4%)	7/50 (14%)		
LITTERS (b)	1/29 (3%)	7/29 (24%)		
POLY-3 RATE (c)	2/42.46	7/41.44		
POLY-3 PERCENT (g)	4.7%	16.9%		
TERMINAL (d)	0/28 (0%)	7/32 (22%)		
FIRST INCIDENCE	638	744 (T)		
STATISTICAL TESTS				
POLY 3		P=0.071		
POLY 1.5		P=0.072		
POLY 6		P=0.074		
RAO-SCOTT		P=0.085		
LITTER C-A/FISHERS		P=0.026*		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Lung: Alveolus			
Infiltration Cellular Histiocy	te		
LESION RATES			
OVERALL (a)	33/50 (66%)	31/50 (62%)	
LITTERS (b)	22/29 (76%)	22/29 (76%)	
POLY-3 RATE (c)	33/46.65	31/43.97	
POLY-3 PERCENT (g)	70.8%	70.5%	
TERMINAL (d)	20/28 (71%)	24/32 (75%)	
FIRST INCIDENCE	470	368	
STATISTICAL TESTS			
POLY 3		P=0.584N	
POLY 1.5		P=0.536N	
POLY 6		P=0.593	
RAO-SCOTT		P=0.580N	
LITTER C-A/FISHERS		P=0.620	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Lymph Node, Mandibular Atrophy Lymphoid				
LESION RATES				
OVERALL (a)	2/49 (4%)	1/49 (2%)		
LITTERS (b)	2/29 (7%)	1/29 (3%)		
POLY-3 RATE (c)	2/41.44	1/40.44		
POLY-3 PERCENT (g)	4.8%	2.5%		
TERMINAL (d)	1/28 (4%)	1/31 (3%)		
FIRST INCIDENCE	643	744 (T)		
STATISTICAL TESTS				
POLY 3		P=0.509N		
POLY 1.5		P=0.508N		
POLY 6		P=0.503N		
RAO-SCOTT		P=0.495N		
LITTER C-A/FISHERS		P=0.500N		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Lymph Node, Mandibular Infiltration Cellular Plasma	Cell		
LESION RATES			
OVERALL (a)	1/49 (2%)	2/49 (4%)	
LITTERS (b)	1/29 (3%)	2/29 (7%)	
POLY-3 RATE (c)	1/41.84	2/40.44	
POLY-3 PERCENT (g)	2.4%	5%	
TERMINAL (d)	0/28 (0%)	2/31 (7%)	
FIRST INCIDENCE	470	744 (T)	
STATISTICAL TESTS			
POLY 3		P=0.488	
POLY 1.5		P=0.489	
POLY 6		P=0.494	
RAO-SCOTT		P=0.481	
LITTER C-A/FISHERS		P=0.500	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Lymph Node, Mesenteric Atrophy Lymphoid				
LESION RATES				
OVERALL (a)	3/48 (6%)	2/50 (4%)		
LITTERS (b)	3/29 (10%)	2/29 (7%)		
POLY-3 RATE (c)	3/40.63	2/41.86		
POLY-3 PERCENT (g)	7.4%	4.8%		
TERMINAL (d)	1/27 (4%)	1/32 (3%)		
FIRST INCIDENCE	643	622		
STATISTICAL TESTS				
POLY 3		P=0.486N		
POLY 1.5		P=0.489N		
POLY 6		P=0.476N		
RAO-SCOTT		P=0.471N		
LITTER C-A/FISHERS		P=0.500N		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Mammary Gland Galactocele				
LESION RATES				
OVERALL (a)	0/50 (0%)	2/50 (4%)		
LITTERS (b)	0/29 (0%)	2/29 (7%)		
POLY-3 RATE (c)	0/41.88	2/42.49		
POLY-3 PERCENT (g)	0%	4.7%		
TERMINAL (d)	0/28 (0%)	0/32 (0%)		
FIRST INCIDENCE		533		
STATISTICAL TESTS				
POLY 3		P=0.240		
POLY 1.5		P=0.236		
POLY 6		P=0.249		
RAO-SCOTT		P=0.338		
LITTER C-A/FISHERS		P=0.246		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid **CAS Number:** 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females
DOSE	0/300 ppm	150/300 ppm	
Mammary Gland			
Hyperplasia			
LESION RATES			
OVERALL (a)	15/50 (30%)	13/50 (26%)	
LITTERS (b)	13/29 (45%)	11/29 (38%)	
POLY-3 RATE (c)	15/43.44	13/42.13	
POLY-3 PERCENT (g)	34.5%	30.9%	
TERMINAL (d)	11/28 (39%)	11/32 (34%)	
FIRST INCIDENCE	533	589	
STATISTICAL TESTS			
POLY 3		P=0.447N	
POLY 1.5		P=0.445N	
POLY 6		P=0.427N	
RAO-SCOTT		P=0.450N	
LITTER C-A/FISHERS		P=0.395N	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

-		
DOSE	0/300 ppm	150/300 ppm
Ovary Atrophy		
LESION RATES		
OVERALL (a)	32/49 (65%)	40/50 (80%)
LITTERS (b)	23/29 (79%)	25/29 (86%)
POLY-3 RATE (c)	32/46.19	40/46.78
POLY-3 PERCENT (g)	69.3%	85.5%
TERMINAL (d)	16/27 (59%)	27/32 (84%)
FIRST INCIDENCE	250	322
STATISTICAL TESTS		
POLY 3		P=0.045*
POLY 1.5		P=0.046*
POLY 6		P=0.056
RAO-SCOTT		P=0.079
LITTER C-A/FISHERS		P=0.365

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Ovary				
Cyst				
LESION RATES				
OVERALL (a)	20/49 (41%)	16/50 (32%)		
LITTERS (b)	16/29 (55%)	14/29 (48%)		
POLY-3 RATE (c)	20/44.11	16/45.00		
POLY-3 PERCENT (g)	45.3%	35.6%		
TERMINAL (d)	13/27 (48%)	8/32 (25%)		
FIRST INCIDENCE	250	349		
STATISTICAL TESTS				
POLY 3		P=0.232N		
POLY 1.5		P=0.252N		
POLY 6		P=0.189N		
RAO-SCOTT		P=0.250N		
LITTER C-A/FISHERS		P=0.397N		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

DOSE	0/300 ppm	150/300 ppm
Pancreas: Acinus		
Atrophy		
LESION RATES		
OVERALL (a)	3/50 (6%)	4/50 (8%)
LITTERS (b)	3/29 (10%)	4/29 (14%)
POLY-3 RATE (c)	3/41.88	4/41.44
POLY-3 PERCENT (g)	7.2%	9.7%
TERMINAL (d)	3/28 (11%)	4/32 (13%)
FIRST INCIDENCE	744 (T)	744 (T)
STATISTICAL TESTS		
POLY 3		P=0.494
POLY 1.5		P=0.491
POLY 6		P=0.509
RAO-SCOTT		P=0.469
LITTER C-A/FISHERS		P=0.500

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid **CAS Number:** 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females
DOSE	0/300 ppm	150/300 ppm	
Pituitary Gland: Pars Distalis Hyperplasia			
LESION RATES			
OVERALL (a)	18/50 (36%)	26/50 (52%)	
LITTERS (b)	16/29 (55%)	19/29 (66%)	
POLY-3 RATE (c)	18/43.46	26/43.68	
POLY-3 PERCENT (g)	41.4%	59.5%	
TERMINAL (d)	14/28 (50%)	19/32 (59%)	
FIRST INCIDENCE	470	533	
STATISTICAL TESTS			
POLY 3		P=0.064	
POLY 1.5		P=0.061	
POLY 6		P=0.084	
RAO-SCOTT		P=0.074	
LITTER C-A/FISHERS		P=0.296	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

DOSE	0/300 ppm	150/300 ppm
	олосо ррпп	100/000 ppiii
Spleen		
Extramedullary Hematopoie	esis	
LESION RATES		
	22/50 (000/)	20/50 /720/)
OVERALL (a)	33/50 (66%)	36/50 (72%)
LITTERS (b)	25/29 (86%)	24/29 (83%)
POLY-3 RATE (c)	33/48.17	36/47.50
POLY-3 PERCENT (g)	68.5%	75.8%
TERMINAL (d)	18/28 (64%)	22/32 (69%)
FIRST INCIDENCE	250	322
STATISTICAL TESTS		
POLY 3		P=0.283
POLY 1.5		P=0.280
POLY 6		P=0.321
RAO-SCOTT		P=0.310
LITTER C-A/FISHERS		P=0.500N

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

-		
DOSE	0/300 ppm	150/300 ppm
Spleen Pigment		
LESION RATES		
OVERALL (a)	21/50 (42%)	30/50 (60%)
LITTERS (b)	18/29 (62%)	23/29 (79%)
POLY-3 RATE (c)	21/43.48	30/45.80
POLY-3 PERCENT (g)	48.3%	65.5%
TERMINAL (d)	14/28 (50%)	22/32 (69%)
FIRST INCIDENCE	574	295
STATISTICAL TESTS		
POLY 3		P=0.070
POLY 1.5		P=0.061
POLY 6		P=0.086
RAO-SCOTT		P=0.073
LITTER C-A/FISHERS		P=0.124

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females
DOSE	0/300 ppm	150/300 ppm	
Spleen: Lymphoid Follicle Atrophy			
LESION RATES			
OVERALL (a)	9/50 (18%)	8/50 (16%)	
LITTERS (b)	9/29 (31%)	7/29 (24%)	
POLY-3 RATE (c)	9/43.05	8/44.37	
POLY-3 PERCENT (g)	20.9%	18%	
TERMINAL (d)	4/28 (14%)	3/32 (9%)	
FIRST INCIDENCE	643	295	
STATISTICAL TESTS			
POLY 3		P=0.472N	
POLY 1.5		P=0.487N	
POLY 6		P=0.449N	
RAO-SCOTT		P=0.467N	
LITTER C-A/FISHERS		P=0.385N	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Spleen: Lymphoid Follicle			
Hyperplasia			
LESION RATES			
OVERALL (a)	2/50 (4%)	2/50 (4%)	
LITTERS (b)	2/29 (7%)	2/29 (7%)	
POLY-3 RATE (c)	2/42.42	2/42.07	
POLY-3 PERCENT (g)	4.7%	4.8%	
TERMINAL (d)	1/28 (4%)	1/32 (3%)	
FIRST INCIDENCE	574	533	
STATISTICAL TESTS			
POLY 3		P=0.691	
POLY 1.5		P=0.689	
POLY 6		P=0.688N	
RAO-SCOTT		P=0.664	
LITTER C-A/FISHERS		P=0.694	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Stomach, Forestomach Ulcer			
LESION RATES			
OVERALL (a)	2/50 (4%)	1/50 (2%)	
LITTERS (b)	2/29 (7%)	1/29 (3%)	
POLY-3 RATE (c)	2/41.88	1/41.54	
POLY-3 PERCENT (g)	4.8%	2.4%	
TERMINAL (d)	2/28 (7%)	0/32 (0%)	
FIRST INCIDENCE	744 (T)	718	
STATISTICAL TESTS			
POLY 3		P=0.503N	
POLY 1.5		P=0.505N	
POLY 6		P=0.492N	
RAO-SCOTT		P=0.490N	
LITTER C-A/FISHERS		P=0.500N	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Stomach, Forestomach: Ep Hyperplasia	pithelium			
LESION RATES				
OVERALL (a)	5/50 (10%)	3/50 (6%)		
LITTERS (b)	5/29 (17%)	3/29 (10%)		
POLY-3 RATE (c)	5/42.09	3/42.11		
POLY-3 PERCENT (g)	11.9%	7.1%		
TERMINAL (d)	4/28 (14%)	1/32 (3%)		
FIRST INCIDENCE	687	564		
STATISTICAL TESTS				
POLY 3		P=0.355N		
POLY 1.5		P=0.362N		
POLY 6		P=0.337N		
RAO-SCOTT		P=0.339N		
LITTER C-A/FISHERS		P=0.353N		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females	
DOSE	0/300 ppm	150/300 ppm		
Stomach, Forestomach: Su	ıbmucosa			
Inflammation Chronic				
LESION RATES				
OVERALL (a)	2/50 (4%)	2/50 (4%)		
LITTERS (b)	2/29 (7%)	2/29 (7%)		
POLY-3 RATE (c)	2/41.88	2/42.44		
POLY-3 PERCENT (g)	4.8%	4.7%		
TERMINAL (d)	2/28 (7%)	0/32 (0%)		
FIRST INCIDENCE	744 (T)	351		
STATISTICAL TESTS				
POLY 3		P=0.690N		
POLY 1.5		P=0.694		
POLY 6		P=0.678N		
RAO-SCOTT		P=0.662N		
LITTER C-A/FISHERS		P=0.694		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid **CAS Number:** 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Thymus Atrophy			
LESION RATES			
OVERALL (a)	46/48 (96%)	45/50 (90%)	
LITTERS (b)	28/28 (100%)	27/29 (93%)	
POLY-3 RATE (c)	46/47.50	45/48.17	
POLY-3 PERCENT (g)	96.9%	93.4%	
TERMINAL (d)	27/28 (96%)	29/32 (91%)	
FIRST INCIDENCE	250	322	
STATISTICAL TESTS			
POLY 3		P=0.377N	
POLY 1.5		P=0.350N	
POLY 6		P=0.356N	
RAO-SCOTT		P=0.412N	
LITTER C-A/FISHERS		P=0.254N	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Female	 es	
DOSE	0/300 ppm	150/300 ppm		
Thyroid Gland: C-Cell Hyperplasia				
LESION RATES				
OVERALL (a)	4/50 (8%)	6/50 (12%)		
LITTERS (b)	4/29 (14%)	6/29 (21%)		
POLY-3 RATE (c)	4/41.90	6/41.44		
POLY-3 PERCENT (g)	9.6%	14.5%		
TERMINAL (d)	3/28 (11%)	6/32 (19%)		
FIRST INCIDENCE	737	744 (T)		
STATISTICAL TESTS				
POLY 3		P=0.361		
POLY 1.5		P=0.358		
POLY 6		P=0.378		
RAO-SCOTT		P=0.340		
LITTER C-A/FISHERS		P=0.365		

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

			Females
DOSE	0/300 ppm	150/300 ppm	
Thyroid Gland: Follicular Co	ell		
LESION RATES			
OVERALL (a)	8/50 (16%)	9/50 (18%)	
LITTERS (b)	6/29 (21%)	7/29 (24%)	
POLY-3 RATE (c)	8/44.10	9/43.95	
POLY-3 PERCENT (g)	18.1%	20.5%	
TERMINAL (d)	2/28 (7%)	5/32 (16%)	
FIRST INCIDENCE	470	349	
STATISTICAL TESTS			
POLY 3		P=0.497	
POLY 1.5		P=0.493	
POLY 6		P=0.512	
RAO-SCOTT		P=0.519	
LITTER C-A/FISHERS		P=0.500	
-			

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Uterus Dilation			
LESION RATES			
OVERALL (a)	3/49 (6%)	0/50 (0%)	
LITTERS (b)	3/29 (10%)	0/29 (0%)	
POLY-3 RATE (c)	3/41.23	0/41.44	
POLY-3 PERCENT (g)	7.3%	0%	
TERMINAL (d)	2/27 (7%)	0/32 (0%)	
FIRST INCIDENCE	643		
STATISTICAL TESTS			
POLY 3		P=0.117N	
POLY 1.5		P=0.118N	
POLY 6		P=0.113N	
RAO-SCOTT		P=0.188N	
LITTER C-A/FISHERS		P=0.118N	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Uterus Inflammation			
LESION RATES			
OVERALL (a)	1/49 (2%)	3/50 (6%)	
LITTERS (b)	1/29 (3%)	3/29 (10%)	
POLY-3 RATE (c)	1/41.23	3/41.54	
POLY-3 PERCENT (g)	2.4%	7.2%	
TERMINAL (d)	0/27 (0%)	2/32 (6%)	
FIRST INCIDENCE	643	718	
STATISTICAL TESTS			
POLY 3		P=0.307	
POLY 1.5		P=0.306	
POLY 6		P=0.316	
RAO-SCOTT		P=0.323	
LITTER C-A/FISHERS		P=0.306	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

Date Report Requested: 08/15/2018 Time Report Requested: 09:40:08 First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Uterus: Endometrium Hyperplasia Cystic			
LESION RATES			
OVERALL (a)	22/49 (45%)	31/50 (62%)	
LITTERS (b)	17/29 (59%)	22/29 (76%)	
POLY-3 RATE (c)	22/43.15	31/45.18	
POLY-3 PERCENT (g)	51%	68.6%	
TERMINAL (d)	14/27 (52%)	22/32 (69%)	
FIRST INCIDENCE	484	322	
STATISTICAL TESTS			
POLY 3		P=0.064	
POLY 1.5		P=0.056	
POLY 6		P=0.089	
RAO-SCOTT		P=0.093	
LITTER C-A/FISHERS		P=0.131	

Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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Lab: BAT

		Females	
DOSE	0/300 ppm	150/300 ppm	
Uterus: Endometrium Metaplasia			
LESION RATES			
OVERALL (a)	17/49 (35%)	21/50 (42%)	
LITTERS (b)	15/29 (52%)	16/29 (55%)	
POLY-3 RATE (c)	17/43.75	21/43.55	
POLY-3 PERCENT (g)	38.9%	48.2%	
TERMINAL (d)	9/27 (33%)	17/32 (53%)	
FIRST INCIDENCE	470	322	
STATISTICAL TESTS			
POLY 3		P=0.250	
POLY 1.5		P=0.257	
POLY 6		P=0.260	
RAO-SCOTT		P=0.259	
LITTER C-A/FISHERS		P=0.500	

Test Type: CHRONIC Route: DOSED FEED

Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Perfluorooctanoic Acid CAS Number: 335-67-1

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Lab: BAT

LEGEND

(a) Number of tumor-bearing animals/number of animals examined at site.

- (b) Number of litters with tumor-bearing animals/number of litters examined at site
- (c) Number of tumor-bearing animals/Poly-3 number
- (d) Observed incidence at terminal kill.
- (e) Value of statistic cannot be computed.
- (f) Beneath the control incidence are the P-values associated with the trend test. Beneath the dosed group incidence are the P-values corresponding to pairwise comparisons between the controls and that dosed group.
- (g) Poly-3 adjusted lifetime tumor incidence.
- (I) Interim sacrifice
- (T) Terminal sacrifice
- # Tumor rates based on numbers of animals necropsied.
- To the right of any statistical result, indicates significance at (P<=0.05).
- ** To the right of any statistical result, indicates significance at (P<=0.01).
- N Indicates a negative trend for all tests
 - The Rao-Scott statistic performs the Poly-3 test with an adjustment for within-litter correlation.
 - The Litter C-A/Fishers statistic compares directly the litter incidence rates.

*** END OF REPORT ***